

# THE UNIVERSITY OF BRITISH COLUMBIA

## *Curriculum Vitae for Faculty Members*

**Date:** May 1, 2014

Initials:

1. **SURNAME:** Khosravi

**FIRST NAME:** Hassan

**MIDDLE NAME:**

2. **DEPARTMENT/SCHOOL:** Computer Science

3. **FACULTY:** Science

4. **PRESENT RANK:** Lecturer

**SINCE:** August 1, 2013

5. **Post-Secondary Education**

(a) *Degrees*

University or Institution	Degree	Subject Area	Dates
Simon Fraser University	Ph.D.	Computer Science	2012
Amirkabir University of Technology	M.Sc.	Computer Science	2006
Shahid Bahonar University	B.Sc.	Computer Science	2005

6. **Employment Record**

(a) *Prior to coming to UBC*

University, Company or Organization	Rank or Title	Dates
FusionPipe Software Solutions	Industrial R&D Fellowship	10/2012 - 08/2013
Simon Fraser University	Sessional Lecturer	01/2010 - 09/2012

(b) *At UBC*

Rank or Title	Dates
Lecturer	09/2013 -

(c) *Date of granting of tenure at U.B.C.:*

## 7. Teaching

My teaching career includes instructing six distinct undergraduate courses with nine different offerings to a total of ~1100 undergraduate students.

I'm passionate about teaching and exploiting techniques with pedagogical benefits to promote active learning by inviting students to be interactive and engage in lectures. I used the flipped classroom methodology to teach APSC 160. In this course, instead of pre-class readings, students are provided with screencasts (voice over PowerPoint) that introduce the material to be covered in the subsequent class. I truly believe that this method of teaching has a significant impact on the learning of students because of the following: (1) An undeniable limitation of teaching large classes is that all of the students are expected to learn at the same rate. By using screencasts, students can learn at a speed that suits them best, as those students who usually require more time to absorb the material have a chance to watch the screencasts multiple times. (2) Students have much more time during the lecture to develop problem-solving and critical thinking skills. I start my lectures with marked clicker-questions that are used to assess student comprehension of the learning goals presented by the screencasts. The remainder of the lecture is allocated to active in-class exercises that provide hands on experience with this material. Two teaching assistants and myself provide one-to-one guidance to students during this time. (3) Students can revisit the screencasts. Based on the statistical reports obtained from Connect, some students watched the screencasts up to 8-15 times throughout the semester. I greatly enjoyed using the flipped classroom method and in my opinion many undergraduate courses can be evolved to benefit from this strategy

I take my lecture periods and my time with my students very seriously. This is the time when I have the opportunity to not only inspire my students to learn, but to also stimulate their curiosity and interest, and to potentially have a significant impact in how they pursue the rest of their lives. The following are a few of the most important skills and abilities that I desire to develop in my students during my lectures: (1) To become problem solvers; students should be taught to develop their own vision, reasoning, and practical skills. To achieve this, I frequently have in-class exercises composed of both simple and challenging problems, where students can apply the skills they have learned during lectures to solving problems. (2) To become prepared for future employment; students should be exposed to tasks similar to those undertaken by professionals in their disciplines. To accomplish this, I often use exercises and projects with practical applications and industrial. As an example, in Introduction to Database, and Data Structure and Algorithm courses, student pairs were asked to implement an on-line database system and a social network analyzer respectively as products and market them to potential buyers. (3) To become team players; complex scientific projects are rarely the work of an individual, so students must be taught how to collaborate with their peers. I strongly favor team exercises and projects both during and outside of lectures. As an example, in Introduction to Artificial Intelligence course, students had to work in pairs to implement an agent that played Backgammon. To motivate the class, I designed a league for the implemented agents to compete in with one another. As another example, in the Connecting to Computer Science course, students used their labs to work in groups of threes or fours to develop a web-based tool using JavaScript.

(a) *Courses taught at UBC*

Session	Course Number	Class Size	Hours Taught / Week			
			Lectures	Tutorials	Labs	Other
2013W-T2	CPSC 304	120	7.5	0	0	4
2013W-T2	APSC 160	197	3	0	0	2
2013W-T2	APSC 160	172	3	0	0	2
2013W-T1	CPSC 101	120	3	0	0	2
2013W-T1	CPSC 260	50	3	0	0	2

(b) *Courses taught at SFU*

Session	Course Number	Class Size	Hours Taught / Week			
			Lectures	Tutorials	Labs	Other
2012 Summer	CMPT 120	193	3	0	0	2
2012 Fall	CMPT 354	73	3	0	0	2
2011 Spring	CMPT 310	71	3	0	0	2
2010 Spring	CMPT 310	61	3	0	0	2

(c) *Students Supervised/co-supervised*

Student Name	Program Type	year	project title
Ildar Muslushkov	Ph.D. UBC	2013	Securing Smartphones and Tablets for BYOD Management
Alireza Davoodi	M.Sc. UBC	2013	User Modeling on Smart Devices
Pariya Raoufi	M.Sc. SFU	2013	Smart-device log analytics using MapReduce
Alireza Zarei	M.Sc. UBC	2012	Optimization of cloud usage on Amazon AWS
Yuke Zhu	B.Sc. SFU	2011	Modelling Relational Statistics With Bayes Nets Using Pseudo-Likelihood
Tianxiang Gao	B.Sc. SFU	2011	Learning Compact Markov Logic Networks With Decision Trees
Ali Bozorgkhan	M.Sc. SFU	2010-2012	Social network Analysis
Tong Man	B.Sc. SFU	2009-2010	Structure Learning for Markov Logic Networks
Jianfeng Hu	B.Sc. SFU	2009-2010	Learning Compact Markov Logic Networks With Decision Trees
Xiaoyuan Xu	B.Sc. SFU	2009-2010	Structure Learning for Markov Logic Networks
Bahareh Bina	M.Sc. SFU	2009-2010	Structure Learning for Markov Logic Networks

## 8. Scholarly and Professional Activities

### (a) *Professional Experience*

#### 1. Researcher at FusionPipe Inc., Vancouver, Canada, 2013

- Co-wrote grants with faculty members including Dr. Cristina Conati, and Dr. Konstantin Beznosov from UBC and Dr. Oliver Schulte from SFU. The sum of all of the approved grants was valued at \$130,000.
- Recruited and led a team of five researchers (one Ph.D. and four M.Sc. students).
- Managed a project on remote data consolidation and analysis of thousands of smart devices within a MapReduce framework.
- Led a project for designing and prototyping a framework that decouples user authentication and data encryption on tablets and smartphones. Work from our experimental development resulted in a Patent Filing with the USPTO & PCT.

#### 2. Intern at FusionPipe Inc., Vancouver, Canada, 2012

- Designed and implemented software in Python to perform disaster recovery for virtual machines using cloud computing.
- Designed and implemented a 3-way bi-synchronization and orchestration for file backup, restore and recovery methods interoperable on public clouds, private clouds, local Smartphones or PCs with minimized data transfer and interchange.

#### 3. Intern at INETCO Inc., Vancouver, Canada, 2011

- Developed a system that required implementation of innovative machine learning techniques to infer the association of messages in a network with millions of transactions in seconds on stream data.

#### 4. Research Assistant to Dr. Oliver Schulte, Vancouver, 2007-2012

- Supervised a team of 6 (2 graduate and 4 undergraduate) students to develop software that provides sophisticated search methods for learning directed causal and statistical models on propositional and relational data. The results of this project were published as four papers in the premium Journal of Machine Learning.

### (b) *Research or equivalent grants*

Period	Project Title	Grant	Role	Amount
2013	Securing Smartphones and Tablets for BYOD Management	NSERC Engage	Co-wrote grant with Dr. Konstantin Beznosov and project lead	\$25,000
2013	User Modeling on Smart Devices	NSERC Engage	Co-wrote grant with Dr. Cristina Conati and project lead	\$25,000

Period	Project Title	Grant	Role	Amount
2012	Using Cloud Computing for Disaster recovery	NSERC IRDF	Main applicant and chief designer and developer	\$60,000
2012	Using Cloud Computing for Disaster recovery	Mitacs Cluster	Co-wrote grant with Dr. Oliver Schulte and project lead	\$80,000
2012	Recovery as a Cloud Service	NSERC Engage	Co-wrote grant with Dr. Oliver Schulte and chief designer and developer	\$25,000
2011	Real-time Machine Learning for Transaction Analysis	NSERC Engage	Co-wrote grant with Dr. Oliver Schulte and chief designer and developer	\$25,000

(c) *presentations*

date	Title	Conference	Location
2012	Modelling Relational Statistics With Bayes Nets Using Pseudo-Likelihood	International Conference on Inductive Logic Programming	Dubrovnik, <i>Croatia</i>
2012	Fast Learning of Markov Logic Networks Via Moralization	International Conference on Inductive Logic Programming	Dubrovnik, <i>Croatia</i>
2011	Learning Directed Relational Models With Recursive Dependencies	International Conference on Inductive Logic Programming	London, <i>United Kingdom</i>
2011	Learning Compact Markov Logic Networks With Decision Trees	International Conference on Inductive Logic Programming	London, <i>United Kingdom</i>
2010	Structure Learning for Markov Logic Networks with Many Descriptive Attributes	Association for the Advancement of Artificial Intelligence	Atlanta, <i>United States</i>
2011	Learning Compact Markov Logic Networks With Decision Trees	International Conference on Inductive Logic Programming	London, <i>United Kingdom</i>
2009	Virtual Joins With Nonexistent Links	International Conference on Inductive Logic Programming	London, Leuven, <i>Belgium</i>
2009	The Imap Hybrid Method for Learning Gaussian Bayes Nets ( <b>Best paper award</b> )	Canadian Conference of Artificial Intelligence	Kelowna, <i>Canada</i>
2009	A Survey on Statistical Relational Learning	Canadian Conference of Artificial Intelligence	Kelowna, <i>Canada</i>
2008	Using Bayes Nets for Statistical Relational Learning based on Table Joins	Canadian Conference of Artificial Intelligence	Windsor, <i>Canada</i>

## 9. Service to the University

### (a) *Membership on committees*

#### *Departmental Committees at UBC*

<b>Committee</b>	<b>Role</b>	<b>Dates</b>
Student Development Committee	Member	09/2013 -
Undergraduate Student Services Working Group	Member	09/2013

#### Student Development

- Mentored two students in the Tri-Mentoring program.
- Helped with the coordination of the ACM regional contest at UBC 2013.
- Represented the Computer Science Department on selecting Undergraduate Student Research Awards 2014

#### Undergraduate Student Services

- Represented the Computer Science Department in the British Columbia Computing Education Committee (BCCEC) articulation meeting, 2013 and 2014
- Represented the Computer Science Department at Faculty of Science's "Beyond First Year" event 2013.

#### *Committees and Associations at SFU*

<b>Committee</b>	<b>Role</b>	<b>Dates</b>
Computer Science Graduate Student Association	President	09/2008 - 09/2010
Graduate Issue Committee	Member	09/2008 - 09/2009
Computer Science Graduate Student Association	Vice President	09/2007 - 09/2008

**THE UNIVERSITY OF BRITISH COLUMBIA**  
*Publication Record*

**Date:** May 1, 2014

**Initials:**

**SURNAME:** Khosravi

**FIRST NAME:** Hassan

**MIDDLE NAME:**

**1. Refereed Publications**

(a) *Journals*

1. Oliver Schulte, **Hassan Khosravi**, Arthur KirkPatrick, TianXiang Gao, and Yuke Zhu. Modelling relational statistics with bayes nets. *Journal of Machine Learning*, 94: 105-125, 2014.
2. **Hassan Khosravi**, Oliver Schulte, Jianfeng Hu, and Tianxiang Gao. Learning compact markov logic networks with decision trees. *Journal of Machine Learning*, 89:257277, 2012.
3. Oliver Schulte and **Hassan Khosravi**. Learning graphical models for relational data via lattice search. *Journal of Machine Learning*, 88:331368, 2012.
4. Oliver Schulte, **Hassan Khosravi**, and Tong Man. Learning directed relational models with recursive dependencies. *Journal of Machine Learning*, 89:299316, 2012.
5. L. Bakker, W. Hare, **Hassan Khosravi**, and B. Ramadanovic. A social network model of investment behaviour in the stock market. *Physica A: Statistical Mechanics and its Applications*, November 2009.

(b) *Peer Reviewed Conferences*

1. **Hassan Khosravi**. Fast parameter learning for Markov Logic Networks using bayes nets. To appear in 22nd Conference on Inductive Logic Programming (ILP), 2013.
2. **Hassan Khosravi**, Ali Bozorgkhan, and Oliver Schulte. Transaction-based link strength prediction in an on-line social network. *IEEE Symposium Series on Computational Intelligence (SSCI)*, 2013.
3. **Hassan Khosravi**, Oliver Schulte, Jianfeng Hu, and Tianxing Gao. Learning compact markov logic networks with decision trees. 21st Conference on Inductive Logic Programming (ILP), volume 7207, pages 2126, 2011.
4. Oliver Schulte, **Hassan Khosravi**, and Tong Man. Learning directed relational models with recursive dependencies. 21st Conference on Inductive Logic Programming (ILP), 7207 :2126, 2011.
5. **Hassan Khosravi**, Oliver Schulte, Tong Man, Xiaoyuan Xu, and Bahareh Bina. Structure learning for Markov logic networks with many descriptive attributes. *Proceedings of the Twenty-Fourth Conference on Artificial Intelligence (AAAI)*, pages 487493, 2010.
6. **Hassan Khosravi** and Bahareh Bina. A survey on statistical relational learning. *Canadian Conference on AI*, pages 256268, 2010.

7. Oliver Schulte, Gustavo Frigo, Russell Greiner, and **Hassan Khosravi**. The IMAP hybrid method for learning gaussian bayes nets. Canadian Conference on AI, pages 123134, 2010.
8. **Hassan Khosravi** and Recep Colak. Exploratory analysis of co-change graphs for code refactoring. Canadian Conference on AI, pages 219223, 2009.
9. **Hassan Khosravi**, Oliver Schulte, and Bahareh Bina. Virtual joins with nonexistent links. 19th Conference on Inductive Logic Programming (ILP), 2009. URL = <http://www.cs.kuleuven.be/~dtai/ilp-mlg-srl/papers/ILP09-39.pdf>.
10. **Hassan Khosravi**, Ebrahim Shiri, Hamid Khosravi, Ehsan Iranmanesh, and Alireza Davoodi. Tactic-a multi behavioral agent for trading agent competition. Advances in Computer Science and Engineering, Communications in Computer and Information Science, volume 6 of Lecture Notes in Computer Science, pages 811815. Springer, 2009.
11. Oliver Schulte, Gustavo Frigo, Russell Greiner, and **Hassan Khosravi**. A new hybrid method for Bayesian network learning with dependency constraints. Proceedings IEEE Symposium on Computational Intelligence and Data Mining (CIDM), pages 5360, 2009.
12. **Hassan Khosravi**, Ebrahim Shiri, Hamid Khosravi, and Ehsan Iranmanesh. An automated negotiation technique for self-interest agents. 12th International Computer Science and Information Conference (CSI), 2006.

(c) *Workshops*

1. Oliver Schulte, **Hassan Khosravi**, Tianxiang Gao and Yuke Zhu. Random Regression for Bayes Nets Applied to Relational Data. UAI-StarAI Workshop on Statistical-Relational AI, 2012.
2. Oliver Schulte, **Hassan Khosravi**, and Bahareh Bina. Bayes nets for combining logical and probabilistic structure. Proceedings STRUCK Workshop on Learning Structural Knowledge From Observations in IJCAI-09, 2009.
3. Oliver Schulte, **Hassan Khosravi**, Bahareh Bina, and Flavia Moser. Join Bayes nets: A new type of Bayes net for relational data. Proceedings GKR Workshop on Graph Structures for Knowledge Representation and Reasoning in IJCAI-09, pages 1924, 2009.

## 2. Patents

1. **Hassan Khosravi**, Ildar Muslukhov, Peter Luong. Method and system for decoupling user authentication and data encryption on mobile devices. U.S. Patents 13/943070, July 2013.